

Section C - Descriptions and Specifications

1.0 INTRODUCTION

This Statement of Work (SOW) provides Naval Surface Warfare Center Carderock Division – Ship Systems Engineering Station (NSWCCD-SSES) the ability to support various sponsors and stakeholders for various Navy Modernization Programs utilizing the Alteration Installation Team (AIT) process. This effort shall provide blue collar installation and technical services for upgrading Hull, Mechanical and Electrical (HM&E) systems and deploying technologies which improve availability, increase reliability, ship mission readiness, and decrease maintenance and workload requirements for machinery systems and components. The target platforms of installation are primarily on U.S. Navy Surface Ships, Carriers, Submarines and Service Craft. In addition to the active and reserve U.S. Navy ships, this contract also supports HM&E upgrades on Foreign Military Sales (FMS) platforms, Army watercraft, Military Sealift Command (MSC), land-based test sites, and other DOD platforms. This SOW outlines general contractor requirements and will be supplemented by specific work statements in individual task orders. Task orders will vary in the level and complexity of requirements, from full scope of the technical services of this SOW to narrow portions of the SOW.

Work performed under this SOW will require the contractor to have a NAVSEA 04XQ approved Quality Plan/Quality Management System (QMS).

SUBSAFE work will not be authorized under this contract. However, there may be work performed within SUBSAFE boundaries and the offeror must have personnel that have SUBSAFE/SOC Awareness training prior to conducting work.”

2.0 BACKGROUND

The mission of the NSWCCD-SSES is to transition HM&E machinery technology to the U.S. Navy active/reserve Fleet, and support various sponsors for Navy Modernization Programs. This requires development and execution of various Ship Changes (SCs) and SHIPALTs to upgrade and maintain in a more cost-effective and timely manner the system/equipment readiness of various Navy HM&E and electronic systems. This contract primarily supports large Modernization Programs and/or critical-path SCs/Alterations that are accomplished in Navy Chief Naval Operation (CNO) availabilities.

This contract covers blue collar support for installations primarily on U.S. Navy Surface Ships, Carriers Submarines and Service Craft. In addition, this contract also supports HM&E upgrades on Foreign Military Sales (FMS) platforms, Army watercraft, Military Sealift Command (MSC), land-based test sites, and other DOD platforms.

As part of this mission, various NSWCCD-SSES Divisions support sponsors for program management or are In-Service Engineering Agents (ISEAs) for their system/equipment for the transition of new technologies through the various acquisition phases. The Alteration/SC installation process consists of several acquisition phases, including advance planning, Research and Development (R&D), ship check, surveys, assessments, fabrication, prototype/proof-in install, final design shipboard installation, testing, lessons learned gathering and completion/close-out. Alteration / SCs for ship specific systems and modifications must be authorized and mature in design before the work is to commence.

This contract covers large Modernization Programs where NSWCCD-SSES is the ISEA for various HM&E systems and equipment. These Programs consist of critical-path SCs/Alterations that are typically complex in nature and are crucial to the execution of meeting key production, light-off and testing milestones during ship CNO availabilities. In addition, these installs are intricate in system arrangement, interface and distributive system impact. Some of the programs supported include, but are not limited to:

- DDG51 Class Control systems: MCS, DCS, IBNS, GEDMS, Radar TLI, etc.
- CG47 Class Integrated Ship Control (ISC) including interface to all sensor systems
- LSD41/49 Class Mid-Life – MCS, SCS, LAN and PLMU
- Scalable Integrated Bridge System (SIBS) / Electronic Charting Display Information System – Navy (ECDIS-N)
- R-114 Conversion – A/C and Refrigerant Plants
- Hazardous Minimization Center (HAZMINCEN)
- Submarine Program alterations (Title K SHIPALTs and A&Is)
- Submarine Fleet alterations (Title D SHIPALTs)
- Integrated Condition Assessment System (ICAS)
- Carrier Navigation and Control Systems
- Ship Steam, Auxiliary, Seawater, Compressed Air, Machinery Automation and Fluid systems
- Steam/Diesel and 400 Hz/DC Electric Power systems
- Machinery and Damage Control Systems
- Self-Contained Breathing Apparatus (SCBA) and Firefighting systems
- Submarine Sail system
- Networks and LAN

This contract does provide for task orders for ship/system maintenance and ship/system repair services that are fully bounded and conform to NSWCCD-SSES command repair process and policy. This contract does not provide services for "open and inspect" accomplishment. It is anticipated that repair tasks may be required to complete the modernization effort, and will comprise a small percentage in each of the awarded task orders.

Examples of allowable repair work include:

- (a) Equipment/system repair that interfaces with an approved SC/alterations and would need to be fully operational in order to successfully light off and test the SC/Alterations.
- (b) Components and systems where NSWCCD-SSES is the In-Service Engineering Agent (ISEA) that requires specialized subcontractor support to repair damaged or faulty equipment.
- (c) General Shipyard repair packages where the Shipyard does not have a ship repair contracting vehicle to complete availability. Be advised prior approval must be in place with NSWCCD-SSES Commanding Officer and senior leadership before this type of work can be placed on this contract.

3.0 Scope of Work

The contractor shall provide all required labor, materials, and resources to integrate and modify shipboard and shore-based systems. Alteration/SC industrial services include prefabrication/fabrication, system/equipment pre-install checkout (PICO), shipboard installations, Integrated Logistics Support (ILS), material support, Quality Assurance inspection and completion documentation. Services are required to support various levels of ship systems integration. This integration covers component level digital upgrades through system level upgrades. Systems shall include HM&E, and Electronic.

In addition, the contractor shall be prepared to provide all necessary resources including material, to affect multiple ship systems installations and their interfaces for all types of ships (including, but not limited to: aircraft carriers, surface ships, watercrafts, cutters, submarines and land-based sites) in locations worldwide. Material requirements and specifications, along with Government furnished Information/Equipment, will be provided per individual task order.

3.1 Technical Services Required:

- 3.1.1 Contractor Alteration /SC teams to support major Modernization Programs for blue collar install and Test the new technologies into existing platforms.
- 3.1.2 Contractor engineering support required to integrate new technologies into existing ship HM&E

and electronic systems.

- 3.1.3 Contractor provided services for procuring material required for fabricating, assembling, installing, and conducting the testing for each applicable ship class as defined by the design guidance package including NAVSEA approved drawings.
- 3.1.4 Contractor develops In-Process Control Procedures (IPCPs) utilizing NAVSEA Standard Items and design detailing their process for installing the SC/alterations.
- 3.1.5 Contractor provides Quality Assurance and inspection to support the proper installation for technologies being introduced into existing platforms.
- 3.1.6 Provide other logistic support services including kitting/shipping of material, participating in meetings, visiting government field and industry sites, review of installation correspondence, providing background to these reviews, and participating in inventory reviews of both hardware and software.

3.2 Alteration/Ship Change (SC) Installations

3.2.1 Conduct Alteration/SC Installation Planning

- 3.2.1.1 Provide necessary facilities, equipment, tools, security badges, and trade personnel to accomplish installation of new technologies.
- 3.2.1.2 Conduct pre-installation site surveys/ship checks on designated ships to identify situational interferences between NAVSEA approved drawings and specific physical and environmental conditions. Unless otherwise directed by NSWCCD-SSES, conduct site surveys with program, ISEA representatives or Subject Matter Experts (SME) prior to scheduled installations in accordance with direction or guidance typically via phonecon or e-mails provided in applicable individual task orders.

3.3. General Alteration /SC Installation Requirements

- 3.3.1 Assign a Contractor's Team Leader (Site Foreman or designee) to attend a "team leader meeting" with NSWCCD-SSES program/ISEA/SME representative for review of Alteration /SC Installation requirements prior to an installation. Prepare a draft POA&M that lays out the installation schedule prior to team leader meeting. Be prepared to discuss all aspects of installation including material status, shipping schedule, installation requirements, proposed financial costs, Quality Assurance, and safety concerns. Coordinate schedule information with NSWCCD-SSES, ship's force, and other activities as necessary to ensure proper support is available and interference or delays are minimized.

During the Alteration / SC, ensure the following minimum requirements are met:

- (a) Shipboard Industrial Safety: In conducting task order efforts, comply with applicable safety regulations. This includes a mandatory review of the System/equipment Work Authorization Form (WAF) and tag out procedures, and all shipboard electrical training.
- (b) Conform to existing shipboard routines regarding cleanliness, personnel conduct, and ship's Security and integrity.
- 3.3.1.1 Adhere to all environmental laws and regulations including federal, state, local, Naval, International, ship and industrial facility.

When handling hazardous material and/or waste, handling reports and disposal invoices are required

through local procedures. Government will not be responsible for the Contractor's misuse of hazardous material/waste or for Contractor accident cleanup costs.

- 3.3.1.2 Ensure that all shipboard work follows the established NSWCCD-SSES processes including mandatory use of QA workbooks. These workbooks must adhere to prescribed outline and include all necessary In-Process Control Procedures (IPCPs), personnel qualifications, personnel certifications, and POA&M. These workbooks are required for all shipboard industrial work. See Section 4.3
- 3.3.1.3 Provide verification of certification for welders, pipe fitters, and all trades requiring certification. Personnel shall carry on their person a copy of the certification at all times during the Alteration/SC. No welder shall be permitted to work, in connection with Alteration/SC to vessels, unless they are at the time, qualified to the standards established by the U.S. Coast Guard American Bureau of Shipping or Department of the Navy for the type of welding being performed. No welder shall be permitted to work on production or pre-fabrication applications of welding other than those for which they have qualified and been approved by the Program Office.
- 3.3.1.4 Provide SUBSAFE/SOC awareness training to all employees prior to conducting any submarine work even though no SUBSAFE work is authorized to be accomplished under this contract.
- 3.3.1.5 Rehabilitate affected spaces to original or equivalent condition which includes, but is not limited to:
 - (a) Cleaning, preparing, priming and painting the new and disturbed surfaces to match surrounding areas.
 - (b) Replacing all deck coverings and insulation damaged incidental to installation. If more than 40 percent (40%) of the deck surface area is damaged, replacement covering of the complete space will be specified. Replace all damaged deck covering with matching styles, colors, and grades in accordance with current requirements.
- 3.3.1.6 Repairing all damaged lagging and installing new lagging where appropriate.
- 3.3.1.7 Preparing and attaching applicable labels/tags to power panels, piping, data cables and power cables.
- 3.3.1.8 Proper dressing of all cables for proper cable bend radius and equipment entry.
- 3.3.1.9 Perform a daily thorough cleaning of affected spaces, at end of each shift.
- 3.3.1.10 Ensure that all applicable personnel are briefed on their responsibilities at least two (2) working days prior to starting task for each separately placed task order on this contract.
- 3.3.1.11 Provide redlined drawing packages (if applicable) to the government On-Site Install Coordinator (OSIC) and/or NSWCCD-SSES Program Manager, ISEA or SME NLT (10) days after completion of each installation.

3.4 Installation Ground Rules

3.4.1 Prior to the installation start date, the Site Foreman shall meet with the NSWCCD-SSES Program Manager, ISEA or SME representative to review the installation plan, drawings and schedule and to reaffirm all requirements.

3.4.1.1 During the installation phase onboard the ship, the NSWCCD-SSES PM, SME, or OSIC will representative communicate their requirements to the Site Foreman (rather than individual team members). When the Foreman leaves the ship while work is in progress, he/she will appoint someone to act in his/her absence and identify this individual to the NSWCCD-SSES Representative.

3.4.1.2 The Site Foreman shall brief the NSWCCD-SSES OSIC daily on installation progress, including:

- Status of planned production schedule
- Number of personnel onboard
- Material needed or proposed substitution
- Any proposed design changes or interferences in the installation
- Labor hours used on previous day
- Status of local shipyard support

The Site Foreman also shall brief the NSWCCD-SSES OSIC on work progress/problems upon completion of each workday.

3.4.1.3 Contractor employees will not visit or contact ships without prior NSWCCD-SSES written approval.

3.4.1.4 All communication with DOD, Naval Activities, and ships shall be via NSWCCD-SSES Program Manager, ISEA or SME.

3.4.1.5 Security clearances will be forwarded to ships and installation facilities by Contractor. Contractor CAC badges shall be obtained via the COR.

3.4.1.6 All work will be inspected in accordance with the criteria provided under separately placed task orders and with the provisions of this contract.

3.4.1.7 Coordination of each Alteration /SC is the responsibility of the assigned NSWCCD-SSES AIT Program Manager/ISEA/SME and OSIC. The NSWCCD- SSES OSIC Representative may halt work and convene an off-ship meeting whenever he/she determines that this is required to resolve problems. This responsibility applies to all aspects of an Alteration/SC.

3.4.1.8 AIT contractor site foreman and shipboard personnel must maintain all sections of a Quality Assurance (QA) workbook during industrial production. QA Workbook must be available to OSIC for review.

4.0 ENGINEERING

4.1 Perform engineering analysis, research and design:

4.1.1 Furnish support for engineering and technical investigations and analyses relating to concepts and designs, focusing on installation engineering, compatibility and operability, and interfaces. Prepare procedures for integration of new installation/Alteration / SC projects, including identifying and defining interfaces and relationships between these programs and other DOD systems and subsystems. Specifically, the Contractor shall:

- (a) Collect data elements for technical and schedule impact.

- (b) Conduct interface design studies to include recommendations to resolve component or system interface problems.
- (c) Perform on-site surveys, validations, and verifications in compliance with operational standards in the development of recommendations for improvements or technical change.
- (d) Review/develop test specifications and monitor testing of HM&E and Electronic Systems.
- (e) Develop drawings, field sketches, test procedures and/or results installation procedures, maintenance procedures, etc., as required to accomplish necessary work, and to provide revised or updated documentation reflecting the ship's changed configuration.

4.2 Material Support

- 4.2.1 The contractor is only authorized to purchase and provide materials incidental to the performance of the services to be furnished under individual task orders.

The procurement of material or equipment of any kind, other than that incidental to and necessary for furnishing of the required services, is not authorized nor will any costs incurred be considered allowable.

In addition, the purchase of general purpose business items/expenses required for the conduct of the contractor's normal business operations are not authorized and will not be allowed as a direct cost.

General purpose business items include, but are not limited to, the cost for items such as telephone charges, cellular telephones, fax machines, reproduction machines, word processing equipment, personal computers, office equipment and consumable supplies.

- 4.2.2 It is anticipated that incidental materials will be required for the contractor to procure to support installations. These items include, but not limited to: metal plate, angle, bar, channel, pipe, tee, elbow, coupling, welding electrode, welding studs, welding rods, cable hangers, electrical cable, circuit breakers, electrical lugs, connectors/backshells, paint, lagging paste, rubber channel, hydraulic fluid, various oils, electrical/mechanical switches, gaskets, stuffing tubes, packing assembly, paint roller, paint brushes, fire cloth, masking tape, and gloves.
- 4.2.3 Materials that are not authorized for procurement include cadmium plated fasteners, items containing asbestos, item substitutions, and any material that does not conform to local environmental regulations.
- 4.2.4 For large material procurements that the NSWCCD-SSES SME is unable to have in place to support an install, the task order SME will identify the material requirement and justification to the COR in advance of task order submittal. Materials required other than what is specified under each task order must be approved by the Contracting Officer.

4.3 Quality Assurance

- 4.3.1 Contractor must maintain an approved NAVSEA 04XQ Quality Assurance Plan/Quality Management System (QMS) to support the AIT efforts tasked under this contract. All installation tasks require a Quality Assurance Plan. The contractor shall remain 100 percent responsible for adherence to QA Plan requirements. The Contractor will maintain this system at no cost to the Government and submit all updates to the NSWCCD-SSES Program Manager immediately for

his/her concurrence prior to start of installation.

The prime Contractor is responsible for auditing and certifying that all consultants, subcontractors, and suppliers are in compliance with these quality requirements.

4.3.2 Conduct quality studies and inspections of design, manufacturing, pre-fabrication production, control, inspection, assembly, testing, installation, packaging, and shipping for the purpose of assembling data into a QA manual.

4.3.3 Ensure Quality Assurance Test and Inspection (T&I) Plans are accomplished in accordance with approved drawings NAVSEA Standard Items (NSIs), and applicable Government/commercial standards and specifications including but not limited to documents listed in the Standards/Specification section of this SOW. Contractor will develop their In-Process Control Procedures (IPCPs) in accordance with NSI 009-09. In addition to the above, the contractor shall perform the following tests:

- (a) Ensuring proper continuity in cables and correctness of electric hookup
- (b) Pressure testing of watertight compartment entries
- (c) Ensuring proper bonding, grounding, and shielding of cables and equipment
- (d) Providing one copy of a report listing the insulation resistance for each cable test
- (e) Non-destructive testing of weld joints
- (f) Ensuring proper piping system installation and testing
- (g) Securing cables to the cable wire ways with flexible cinch banding straps
- (h) Ensuring kick pipes and stuffing tubes are used for all penetrations of decks and watertight bulkheads. Stuffing tubes shall be statically tested for water tight integrity.
- (i) Ensuring validity of gas free certificate prior to welding
- (j) Installing collars and nylon stuffing tubes in all penetrations of non-watertight bulkhead
- (k) Ensuring proper input and output power levels

4.3.4 Identify cabling and equipment by installing nameplates and cables bands as follows:

- (a) Nameplates shall conform to MIL-P-15024
- (b) Cable tags (bands) shall be of soft aluminum and conform to MIL-A-2877 and shall be embossed with the applicable cable designation using numbers and capital letters having minimum height of 3/16 inch and embossed to at least 1/64 inch above the surface. Cable tags and securing strips shall have a thickness of 0.014 and 0.016 inch respectively. Cable tags shall be minimum width of one-half inch.

4.3.5 Metal Spraying - Ferrous surfaces which are not readily accessible and are susceptible to corrosion damage shall be coated with metal spray per DOD-STD-2138 (SH) Metal Sprayed Coating Systems for Corrosion Protection Aboard Naval Ships.

- 4.3.6 Component Designation - Each component such as switches, pumps and heat exchangers shall have a label plate to identify it by functional name and assigned number. Label shall comply with MIL-P-15024 and shall be the most economical permitted, provided they are suitable for their environment.
- 4.3.7 Piping Designation - All systems shall be marked (in black) for identification. This marking shall be the functional name of the system and, where necessary for differentiation between two pipes of the same system, the specific service shall be included. In addition to the specific service, the system pressure and direction-of-flow shall be indicated. For outside diameter of 2 inch and larger (bare or lagged) pipe, markings shall be painted on pipes or lagging using stenciled letters 1 inch high. Where pipe sizes are too small for lettering, label plates inscribed with system name and, where necessary, the service shall be wired or banded to the pipe. Piping in machinery spaces shall be marked at least twice, once near entry and once near exit. At the interconnection of systems each system shall be marked nearby, wherever this is practicable. Where piping is behind protective battens, one label plate should be attached to the batten. These label plates should be of the type and material listed on applicable drawings.
- 4.3.8 Valve Designation - Valve handles and operating levers located interior to the ship shall be color-coded. Where a valve is installed below a floor plate or grating or is similarly hidden (e.g., behind paneling) a marking shall be installed both on the valve and on the portable access plate. For valves behind vending machines, salad bars, or other semi-portable obstructions marking should be installed both on the valve and on an adjacent bulkhead, visible despite the object hiding the valve. Markings shall be inscribed on a circular label plate and secured in place by the hand wheel nut. Where the hand wheel size or location prevents the use of one of the above methods, markings shall be inscribed on a flat rectangular label plate to fit the valve or piping and wired to or similarly secured in place on the valve or piping adjacent to the valve. Attachment shall be in such manner as to prevent movement of the label and assure easy reading.
- Insulating material shall be used as baking when label plates are attached to bare valves or piping to prevent electrolytic corrosion between dissimilar metals. Letters shall not be less than 1/8 inch high.
- 4.3.9 Instrument Designation - Label plates shall be provided for all indicating and recording instruments installed.
- Inscription shall indicate the purpose or use of the instrument and shall bear the designation of the related component or system; wherever appropriate the label shall be installed below the instrument and on the plate supporting the instrument. Label plates shall be types and materials listed in applicable drawings.
- 4.3.10 Electrical Terminal Designation - Electrical terminals shall be identified using sleeves imprinted with the cable designation, the nearest connection point, the opposite connection point and the wire number.
- 4.3.11 Provide receipt inspection of all material procured.
- 4.3.12 Inspect all prefabricated parts and conduct certifying test where applicable.
- 4.3.13 Ensure all personnel (including subcontractors) know and adhere to the requirements of this contract and the awarded Contractor's approved Quality Assurance Program.

5.0 STANDARDS/SPECIFICATIONS

- 5.1 Contractor References (In performing this contract, the Contractor is referred to, but not limited to, the

following documents):

- MIL-STDs, MIL-SPECS, and Instructions at http://www.dsp.dla.mil/app_ui/SpecsAndStandards.aspx
- Navy Modernization Program (NMP) Manual SL720-AA-MAN-030 at <https://www.nde.navy.mil/>
- NAVSEA Technical Specification 9090-310 (revision) at <https://www.nde.navy.mil/>
- NAVSEA Standard Items at <http://www.navsea.navy.mil/CNRMCSERMCSSRAC1/standard.aspx>
- NAVSEA C9210.4 (revision) - All non-nuclear work on nuclear powered ships must be in strict compliance with the Naval Sea Systems Command Instruction (classified instructions under separate cover)
- Applicable Ship Change Documents (SCDs)/Ship Alteration Records (SARs) provided by NSWCCD-SSES SME
- Applicable Ship's Installation Drawings (SIDs) and Sketches provided by NSWCCD-SSES SME
- NAVSEA S9AAO-AB-GSO-010/GOS, General Specification for Overhaul of Surface Navy Ships
- NAVSEA S9AAO-AA-SPN-010/GEN SPEC, General Specifications for Ships
- CINCLANTFLT/CINCPACFLTINST 4790.3, Joint Fleet Maintenance Manual (JFFM)
- MIL-STD-1310, (Navy) Bonding and Grounding
- NAVSEA S9300-AW-EDG-010, Electrical Plant Installation Standard Methods (EPISM)
- NAVSEA Technical Publication S9074-AQ-GIB-010/248, Requirements for Welding and Brazing Procedure and Performance Qualification
- NAVSEA Technical Publication S9074-AR-GIB-010/278, Requirements for Fabrication Welding and Inspection, and Casting Inspection and Repair for Machinery, Piping, and Pressure Vessels
- MIL-STD-1689A, Fabrication, Welding and Inspection of Ship Structures
- NAVSEA Technical Publication S9074-AR-GIB-010/1688, Requirements for Fabrication Welding and inspection of Submarine Structure.
- ISO-9001 Quality Systems - Model for Quality Assurance in Design, Development, Production, Installation and Servicing <http://www.iso.org>
- ISO-9002 Quality Systems - Model for Quality Assurance in Production, Installation and Servicing <http://www.iso.org>

5.2 Military Specification Use

Wherever MILSPECS and MIL Standards are cited, it shall be understood that they are for guidance only.

6.0 DELIVERABLES

6.1 Data Requirements

All data deliverables shall be in accordance with the attached form DD 1423 included with this solicitation.

6.1.1 In performing this contract, the Contractor is required to, but not limited to, providing the following documentation as applicable for each individual task order:

- a. Contract / Delivery Order Status Report, Data Item A001
- b. Contract Financial Status Report, (bi-weekly or monthly) Data Item A002
- c. Plan of Attack and Milestone (POA&M) Schedule, Data Item A003
- d. Quality Assurance (QA) Workbook, Data Item A004
- e. Personnel Qualifications / Certifications / Training list, Data Item A005
- f. In-Process Control Procedures (IPCPs), Data Item A006
- g. Weekly Production Status Reports, Data Item A007
- h. Red-lined Ship Installation Drawings (SIDs), Data Item A008
- i. Lessons-Learned Report, Data Item A009
- j. Minutes of Meetings, Data Item A010
- k. Pre-Project GFE/CFE Warehouse Inventory Report. Inventory Status Report of all material, tools, and equipment acquired for installations at time of contract award and quarterly thereafter, Data Item A011
- l. Hazardous Materials/Waste, Handling reports and Disposal Invoices/Data as required Item A012
- m. Pre-installation Site Survey Results, Data Item A013
- n. Completed Installation and Check Out Test reports, Data Item A014
- o. Technical reports as required to complete individual task orders, Data Item A015
- p. Database or other Electronic Documents, Data Item A016
- q. Incurred Cost Report
- r. Burn Rate Report
- s. Labor Rate Substantiation Table

6.1.2 **Enterprise-wide Contractor Manpower Reporting Application (ECMRA)**

The contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract via a secure data collection site. The contractor is required to completely fill in all required data fields using the following web address <https://doncmra.nmci.navy.mil>.

Contracted services excluded from reporting are based on Product Service Codes (PSCs). The excluded PSCs are:

- (1) W, Lease/Rental of Equipment;
- (2) X, Lease/Rental of Facilities;
- (3) Y, Construction of Structures and Facilities;
- (4) S, Utilities ONLY;
- (5) V, Freight and Shipping ONLY.

Reporting inputs will be for the labor executed during the period of performance during each Government fiscal year (FY), which runs October 1 through September 30. While inputs may be

reported any time during the FY, all data shall be reported no later than October 31 of each calendar year.

Contractors may direct questions to the help desk, linked at <https://doncmra.nmci.navy.mil>.

7.0 GOVERNMENT FURNISHED MATERIAL/INFORMATION (GFM-GFI)

7.1 GFM & GFI will be specified in individual task orders.

The contractor shall furnish all necessary equipment required for the performance of individual task orders. The contractor shall be responsible for providing all hand tools necessary, at no cost to the Government, in performance of this contract.

Hand tools are described as standard tools of the trade such as hammers, drills, screwdrivers, pliers, connector crimp tools, awls, saws, etc. and typical tools required to perform tasks set forth in the specific task orders and modifications. It shall be the contractor's responsibility to maintain all Contractor furnished test equipment properly calibrated and in a ready for use condition to the extent necessary to avoid impacting the performance requirements of the task order.

8.0 PERSONNEL QUALIFICATIONS

8.1 The contractor shall provide fully trained and experienced personnel necessary to perform the design, installation and repair services as specified in individual task orders. The contractor shall also provide training for keeping its personnel abreast of industry and trade advances and for establishing and maintaining proficiency on equipment, computer languages and computer operating systems as necessary during the contract period of performance. Training of personnel shall be performed by the contractor at their own expense.

8.1.1 All services shall be performed by fully qualified individuals in the relevant profession, trade or field and possess any licenses required by law or in applicable standards and specifications. The functions to be performed by all personnel shall reasonably correspond to the title of the labor or job category.

8.1.2 When performing special processes such as welding, brazing and non-destructive testing on board Naval vessels and small crafts, the contractor personnel shall be certified to the requirements of T9074-AQ-BIB-010/248 (Requirements for Welding and Brazing Procedure and Performance Qualification); T9074-AS-GIB-010/278 (Requirements for Non-Destructive Testing Methods); S9074-AR-GIB-010/278 (Requirements for Fabrication, Welding and Inspection and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels); and T9074-AB-GIB-010/1688 (Requirements for Fabrication, Welding and Inspection of Submarine Structure). For non-Naval vessels and small crafts, contractor personnel shall be certified to applicable fabrication documents.

The labor categories of Program Manager, Site Foreman, Quality Assurance Specialist, and Senior Engineering Technician are designated as Key Personnel and are subject to the requirements of Clause 5252.237-9106, entitled "Substitution of Personnel."

8.2 Key Personnel

The target education and work experience qualifications for the key labor categories below are as follows:

8.2.1 Program Manager (5 resumes): The Program Manager is responsible for overall contract performance. The Program Manager should ensure compliance with the all contract requirements, is responsible to ensure all contractor personnel are competent, trained, and certified and that adequate resources have been allocated to specific tasks. The Program Manager organizes, directs, and coordinates the planning and execution of all tasks and allocates and reassigns resources as may be necessary to ensure they are properly accomplished within the established schedules.

The Program Manager should have a Bachelor's Degree (BS) in Engineering or Naval Architecture from an accredited college or university. In addition, this position should have seven (7) years managerial or

supervisory experience in engineering projects involving modernization (SHIPALTs / SCs), maintenance, installation, repair or testing of naval ship HM&E or electronic systems/ equipment. This experience should include at least five (5) years working experience in the development and installation of Alteration /SCs on Navy ships. The Program Manager should demonstrate knowledge of Navy organizations including: Naval Sea Systems (NAVSEA) Command, Naval Surface Warfare Center (NSWC), naval shipyard, Regional Maintenance Centers, and Type Commanders (TYCOMs).

In the event the Program Manager does not have a Bachelor's Degree in Engineering or Naval Architecture from an accredited college or university, the target educational requirement may be substituted with a minimum of twelve (12) years experience in Shipboard Modernization work as described in this Section, Scope of Work requirements.

8.2.2 Site Foreman (8 resumes): The Site Foreman is the direct supervisor of contractor personnel working on-site to accomplish an installation or repair work. The Site Foreman is responsible for scheduling, workforce planning, coordinating, supervising, assisting in cost control and ensuring the safety of all contractor personnel in the workforce. The Site Foreman is responsible for complying with work project plans and schedules. Site Foreman ensure that contractor personnel under their direction perform activities to ensure all installation and repair tasks are manned by competent, properly trained and certified personnel who complete their tasks on schedule and in accordance with the technical requirements.

The Site Foreman should be a graduate of high school, trade, or industrial school, and have six (6) years of experience with operation, installation, repair, modification and maintenance of Naval HM&E or Electronic systems and equipment. This experience should also include three (3) years of experience in the supervision of technical support for Alteration/SC installation, maintenance and repair of HM&E ship systems.

8.2.3 Quality Assurance (QA) Specialist (2 Resume): The Quality Assurance (QA) Specialist is the person that ensures the materials and equipment is what is procured and meets specifications, develops needed certification procedures and ensures procurement specifications are in accordance with naval requirements.

The Quality Assurance (QA) Specialist should be a graduate of high school, trade, or industrial school. This position should have five (5) years of experience in performing quality assurance and control inspections on Navy ship HM&E or electronic systems for specification and engineering drawing requirement compliance. This experience should include three (3) years of experience demonstrating practical knowledge of quality assurance programs, quality control inspection systems, machining skills; and a detailed knowledge of shop procedures, processes, methods and techniques which may be obtained concurrently. He/she should be certified NDT (Nondestructive Testing) Level III inspector by American Society for Nondestructive Testing or equivalent organization and must have a thorough knowledge of the NAVSEA Standard Items.

8.2.4 Senior Engineering Technician (10 resumes): The Senior Engineering Technician is the technical expert whose experience supports shipboard installations details, testing, and equipment operational acceptability; supports the engineer with shipboard data and assists with crew training and equipment familiarity as specifically requested and approved by the team leader and Government Subject Matter Experts (SME).

The Senior Engineering Technician should be a graduate of high school, trade/industrial school or other supplemental vocational training. Senior Engineering Technician should have seven (7) years practical engineering experience. This includes the installation, operation, test, maintenance or repair of Navy ship HM&E or electronic equipment and systems. This position should have four (4) years of experience with Navy and/or commercial shipbuilding design, operations, maintenance or testing of ship HM&E or electronic equipment and systems.

8.3 Non-Key Personnel

The minimum education and work experience requirements for non-key labor categories

below are as follows:

8.3.1 Planner & Estimator: The Planner/Estimator is the person who determines the amount of material and manpower needed to do work effort, procures inventories and manages storage of materials and equipment, develops and maintains material lists for inclusion in ship's index drawings, updates, and produces cost and man-day estimates and milestones/POA&M GANTT charts/critical path reports.

Planner & Estimator shall be a graduate of high school, trade or industrial school and have five (5) years of experience with preparing cost and time estimates (time, labor, material and travel) for Alteration/SCs and repairs to naval ship HM&E or electronic systems. This experience must include repair definition, production procedures, planning procedures, material requirements, technical instructions, NAVSEA directives and other similar instructions experience in preparing contract specifications (bid specification). This position provides estimates for work to be accomplished on Navy ships by private shipyards or contractors and experience in preparing material lists for repairs and ship alteration/SCs.

8.3.2 Senior Engineer: The Senior Engineer is responsible for analyzing technical data and for the design and development of engineering changes to accomplish the installations.

The Senior Engineer shall possess a Bachelor's Degree (BS) in Engineering from an accredited college or university. At a minimum this position must have seven (7) years of experience in the design, testing, installation, maintenance of Alteration/SC on naval ship HM&E or electronic equipment and systems. This experience should include all stages of the engineering process in the initial design, prototype, production and completion of Alteration/SCs. Experience should demonstrate knowledge of Navy organizations including: Naval Sea Systems (NAVSEA) Command, Naval Surface Warfare Center (NSWC), naval shipyard, Regional Maintenance Centers, and Type Commanders (TYCOMs).

8.3.3 Engineer: The Engineer shall possess a Bachelor's Degree (BS) in Engineering from an accredited college or university. The Engineer shall have a minimum of four (4) years of experience in the design, testing, installation, repair or maintenance of naval ship HM&E or electronic equipment and systems. This experience should include all stages of the engineering process in the initial design, prototype, production and completion of Alteration/SCs.

8.3.4 Engineering Technician: The Engineering Technician shall have as a minimum a high school graduate, trade or industrial school. A minimum of five (5) years of practical engineering experience in the operation, installation, test, maintenance and repair work of naval ship HM&E or electronic equipment and systems.

8.3.5 Programmer: The Programmer shall have a minimum of an Associate's degree in Computer Science or Computer Programming or minimum of four (4) years equivalent experience without degree. Also, a minimum of three (3) years of experience in utilizing scientific programming skills with digital computer systems, information systems, data management or configuration control applications. Experience should be in the latest Windows operating system and Microsoft Office products.

8.3.6 Logistician: Logistician shall be at a minimum a graduate of high school, trade or industrial school. Logistician shall have a minimum of five (5) years of experience of the Naval Logistic System that includes experience in identifying material and logistic requirements for ship Alteration /SC and repair.

Also experience with the Navy supply and procurement systems and procedures for requisitioning and purchasing material required to support ship alteration /SCs and repairs; experience in researching types and quantities of equipment allowed aboard ship, to include a minimum of two (2) years' experience in use of the Configuration Data Manager's Database-Open Architecture (CDMD-OA), Provisioning, and Technical Documentation (PTD).

8.3.7 Systems/Program Analyst: Bachelor's degree in Management Information Systems or a related field. The degree may be substituted with an A.A.S. degree and three (3) years of experience as an

Analyst/Programmer. Systems/Program Analyst shall have a minimum of three (3) years as a Systems Analyst; experience should be in the latest Windows operating system and Microsoft Office products.

8.3.8 Ship Fitter/Welder/Burner: The following trade positions shall have a minimum of two (2) years of shipboard experience in the position and be at the journeyman level of competence, and all must have a minimum of a high school degree or a technical vocational high school degree.

The burner/welder should be certified in accordance with NAVSEA Standard Item 009-12, NAVSEA S9074-AQ-GIB -010/248 and NAVSEA 0900-LP-001-7000 for material such as high strength steel HY80/HY100, bimetal, aluminum, CRES, copper, brass, bronze, etc. The contractor must provide and maintain welder and pipe fitter certifications for the approved welding/brazing process.

All welding procedure qualification test data must have prior approval by NSWCCD-SSSES code 611 (Welding process and NDE Branch) prior to accomplishing any welding/brazing under this contract. Under no circumstances will a welder/brazer perform the required welding/brazing process unless they are certified to perform that welding/brazing process. Personnel shall carry on their person a copy of the certification at all times during the work effort.

8.3.9 Trade Personnel: The following trade positions shall have a minimum of two (2) years of shipboard experience in the position and be at the journeyman level of competence, and all must have a minimum of a high school degree or a technical vocational high school degree.

- Marine Electrician
- HVAC Technician
- Marine Equipment Mechanic
- Pipefitter/Brazer
- Machinist
- Maintenance Trades Helper

Note: Due to the nature of the work and for the installation team to be cost-effective, crossing of trade boundaries will be required. This entails that paint touch up will not require a painter in most cases. Each person will clean up after themselves, thus not requiring sweepers/cleaners. Mechanics will be expected to carry or rig their own gear vice needing riggers (except for heavy lifts).

8.3.10 CAD Designer: The CAD Designer is the person who operates the CAD system to produce manufacturing, arrangements and ship's installation drawings as required per task order direction. The CAD designer shall have five (5) years of working experience in engineering projects involved in design, test, maintenance or operation of HM&E, or Electronic Systems and equipment.

This position requires as a minimum a high school diploma or GED equivalent and with three (3) years of experience developing and revising engineering drawings for shipboard systems. Graduation from an accredited technical, vocational, or apprentice school drafting program may be substituted for up to two (2) years of experience. One (1) year of experience should include the use of AUTOCAD with its latest version.

8.3.11 Technical Writer: The Technical Writer shall have four (4) years of experience in the planning and preparation of varied types of technical documentation on naval ship HM&E, or electronics systems and equipment. A Bachelor's Degree in English or Journalism is required.

8.3.12 Clerk/Typist: The Clerk/Typist shall have a minimum of a high school degree or GED equivalent and one (1) year experience in word processing particularly in MS Word.

8.3.13 Quality Assurance Technician: The Quality Assurance (QA) Technician shall have a minimum requirement of a high school degree or GED equivalent and three years of shop experience which has

provided a practical knowledge of quality assurance programs, quality control inspection systems, machining skills, and a detailed knowledge of shop procedures, processes and methods.

8.3.14 Electronic Technician: The Electronic Technician shall have a minimum of a high school degree or GED equivalent, and completed an apprenticeship at trade or industrial school. Also a minimum of five (5) years' experience in electrical/electronics systems.

8.3.15 Painter/Sandblaster: Qualified to Society of Protective Coatings specification SSPC-QP2 or equivalent with one (1) year experience/apprenticeship with shipboard painting demonstrating knowledge, skills and abilities sufficient to strip, prepare surface and paint using various coatings and materials. This includes understanding MSDS sheets, containment of air born particles, sealing scuppers and drains, building isolation barriers and setting up proper ventilation for the workspace. Possess Environmental Protection Agency (EPA) approved lead paint removal certification.

8.3.16 Insulator/Lagger: The Insulator/Lagger will have successfully completed Ship's Lagger Applied Skill Technology Course or equivalent. Have one (1) year experience/apprenticeship with lagging demonstrating a knowledge, skills and abilities sufficient to fabricate and assemble various insulating systems of differing materials. This includes cutting, shaping, positioning, alignment and mounting on piping systems and ventilation ducting. Possess an Environmental Protection Agency (EPA) approved Asbestos Handling Certification.

9.0 CONTRACTOR FACILITIES

9.1 Facilities (Security)

Facilities are required to have CONFIDENTIAL security clearance and controlled access work areas as specified in the DD254 form attached hereto. Payment for labor hours and materials will be made only for such hours and materials actually expended in performance under the contract.

The majority of installation locations are accomplished within the Norfolk, VA and/or San Diego, CA regions; therefore, contractors are to maintain their main offices in one or both of these areas. In addition, the work is also accomplished at Mayport FL, Pearl Harbor HI, Everett WA, Bremerton WA, Groton CT, and Portsmouth NH., contractors should have access to subcontractors that have facilities and/or qualified personnel in these CONUS areas that can offset travel/per diem costs.

9.2 Facilities (Physical):

9.2.1 Norfolk, VA. Area – Office and industrial center with machine, welding, sheet metal/structural, electrical/ electronic, rigging, and pipefitting shops, and appropriate storage/staging capacity for incidental materials, within 25 miles of Naval Station Norfolk. The facility must have the following capabilities:

- Machine shop (shop and down river) - capable of removing, repairing, machining, testing, cleaning, hydraulic flushing and reinstalling various HM&E components.
- Structural shop - capable of cutting (gas, arc, and shear), rolling, shaping, grinding, and fitting steel and aluminum stock forms.
- Pipe shop - capable of targeting, fitting, bending, testing, and threading typical shipboard pipe (including brazing).
- Welding shop - capable of welding (steel and aluminum) plates, shapes, sheet metal, and piping joints (shop and downriver).
- Electrical shop - capable of removing, repairing, installing, and operational testing of shipboard equipment.

9.2.2 San Diego, CA. Area – Office and industrial center with machine, welding, sheet metal/structural, electrical/electronic, rigging, and pipefitting shops, and appropriate storage/staging capacity for

incidental materials, within 25 miles of Naval Station San Diego. The facility must have the following capabilities:

- Machine shop (shop and down river) - capable of removing, repairing, machining, testing, cleaning, hydraulic flushing and reinstalling various HM&E components.
- Structural shop - capable of cutting (gas, arc, and shear), rolling, shaping, grinding, and fitting steel and aluminum stock forms.
- Pipe shop - capable of targeting, fitting, bending, testing, and threading typical shipboard pipe (including brazing).
- Welding shop - capable of welding (steel and aluminum) plates, shapes, sheet metal, and piping joints (shop and downriver).
- Electrical shop - capable of removing, repairing, installing, and operational testing of shipboard equipment.

9.2.3 The contractor shall possess or have the ability to obtain facilities and equipment (machines, tooling, tools, services and space) to fabricate/prefabricate parts, components, and assemblies; safely and securely move and maintain materials; and process and certify material and equipment. The contractor shall maintain or have access to a fully outfitted machine and sheet metal shop(s) capable of manufacturing or prefabricating parts, performing basic operational testing, performance evaluations, etc. as specified in individual task orders. The requirement for these facilities shall not be construed to mean the contractor is entitled to or the Government is obligated to reimburse the contractor for any direct costs in connection with or occasioned by these facilities.

9.2.4 A Land Based Test Facility is not required.

9.3 Communication

9.3.1 The Contractor shall maintain communications between these facilities and NSWCCD-SSES offices in Philadelphia, PA.

9.3.2 The Contractor shall provide computer access to all site foremen to maintain communication and digital picture transfer to NSWCCD-SSES Project Managers/SMEs.

10.0 CONTRACTOR CAPABILITIES AND CERTIFICATIONS

10.1 Contractor Capabilities and Certifications

- NAVSEA 04XQ approved Quality Plan / Quality Management Program.
- Defense Contract Management Command (DCMC) approved government property control procedures.

11.0 GENERAL REQUIREMENTS

11.1 Required Standard of Workmanship

Unless otherwise specifically provided in this contract, the quality of all services rendered hereunder shall conform to the highest standards in the relevant profession, trade or field of endeavor. All services shall be rendered by or supervised directly by individuals fully qualified in the relevant profession, trade or field, and holding any licenses required by law. The contractor is responsible for ensuring that all personnel have updated certifications and qualifications to complete their assigned tasks.

Any specialized training to acquire these certifications is the responsibility of the contractor company.

11.2 Security Requirements

The highest level of security required under this contract is CONFIDENTIAL as designated on the DD Form 254, attachment 1 to this contract. The Contractor is responsible for acquiring, and maintaining security clearances at the level(s) required under this contract. The Director of Industrial Security, Defense Security Service, is the point-of-contact regarding security matters.

In addition the contractor is responsible for obtaining and maintaining all security badges and security clearances to gain access to the ship's availability location. For acquiring a Common Access Card (CAC), the contractor must be vetted by their employer with favorable adjudication. The contractor is responsible for returning individual CAC badges to the COR upon the termination of employment.

The contractor is also required to ensure that all of their employees complete all necessary training prior to start of install, as well as any necessary safety training that is required at the ship's location at Naval Bases and Shipyards. Training includes all safety requirements such as PPE, electrical WAF and tag out, etc.; as well as all local environmental and HAZMAT handling/disposal regulations.

11.3 Quality Assurance Surveillance Plan (QASP)

A copy of the QASP is provided as an attachment under Section J of this solicitation. Specific performance standards shall be provided within each RFQ's statement of work for each Task Order.

11.4 Travel Costs

- 11.4.1 The location of shipboard work may require the contractor to travel to CONUS or OCONUS locations. Travel requirements will be identified in the individual task orders. The Contractor is responsible for making all needed arrangements for their personnel. This includes but is not limited to the following: medical examinations, immunizations, passports, visas, security clearances, flight reservations, hotel accommodations and car/truck rental.
- 11.4.2 Travel required for tasks assigned under this contract shall be governed in accordance with rules set forth for temporary duty travel in the Department of Defense Joint Travel Regulations (JTR): Volume 2 for Civilian Personnel.
- 11.4.3 The Government will reimburse the Contractor for allowable travel costs incurred by the Contractor in performance of the contract.
- 11.3.4 The use of privately owned conveyance within the continental United States by the traveler will be reimbursed to the contractor at the mileage rate allowed in accordance with FAR 31.205-46. Authorization for the use of privately owned conveyance shall be indicated in specific task orders. Distances traveled between points shall be shown in standard highway mileage guides. Rationale
for any deviations from distance shown in such standard mileage guides shall be explained by the traveler on his expense sheet. Payment for use of privately owned vehicle outside the 50 mile limit from the contractor's facility will be limited to that equivalent to that rate of the most expeditious means of commercial transportation that would normally have been used.

CLAUSES INCORPORATED BY REFERENCE

HQ C-2-0002	ACCESS TO PROPRIETARY DATA OR COMPUTER SOFTWARE	JUL 2010
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CLAUSES INCORPORATED BY FULL TEXT

CAR-C02 ON-SITE ENVIRONMENTAL AWARENESS (AUG 2009)

- (a) The contractor shall strictly adhere to Federal Occupational Safety and Health Agency (OSHA) Regulations, Environmental Protection Agency (EPA) Regulations, and all applicable state and local requirements.
- (b) The contractor shall ensure that each contractor employee reads the document entitled, “Carderock Division Environmental Policy and Commitment” within 30 days of commencing performance at NSWCCD-SSES. This document is available at <https://crbwebappdev.dt.navy.mil/intranet/documents/policy/Environmental%20Policy.pdf>
- (c) The contractor shall ensure that each contractor employee who will be resident at NSWCCD-SSES completes the Environmental Management System (EMS) Awareness training within 30 days of commencing performance at NSWCCD-SSES. This document is available at <https://crbwebappdev.dt.navy.mil/intranet/code00/esh/documents/Contractor%20EMS%20Awareness%20Training.doc>
- (d) The Contractor shall certify by e-mail to (b) (6) /Code 023 (b) (6) that on-site employees have read the “Carderock Division Environmental Policy and Commitment” and taken the Environmental Management System (EMS) Awareness training within 30 days of commencing performance at NSWCCD-SSES. The e-mail shall include the employee name, work site, and contract number.

CLAUSES INCORPORATED BY FULL TEXT

CAR-C03 ON-SITE SAFETY AWARENESS (AUG 2009)

- (a) The contractor shall strictly adhere to Federal Occupational Safety and Health Agency (OSHA) Regulations, Environmental Protection Agency (EPA) Regulations, and all applicable state and local requirements.
- (b) The contractor shall ensure that each contractor employee reads the document entitled, “Carderock Division Occupational Safety and Health Policy Statement” within 30 days of commencing performance at NSWCCD-SSES. This document is available at: <https://crbwebappdev.dt.navy.mil/intranet/documents/policy/OccupationalSafety.pdf>
- (c) The contractor shall ensure that each contractor employee who will be resident at NSWCCD-SSES completes the Voluntary Protection Program (VPP) Awareness Training within 30 days of commencing performance at NSWCCD-SSES. This document is available at: <https://crbwebappdev.dt.navy.mil/intranet/code00/esh/documents/VPP%20Awareness%20Training%20for%20Contractors.doc>
- (d) The Contractor shall certify by e-mail to (b) (6) Code 022 (b) (6)) that employees have read the “Carderock Division Occupational Safety and Health Policy Statement” and taken the Voluntary Protection Program (VPP) awareness training within 30 days of commencing performance at NSWCCD-SSES. The e-mail shall include the employees name, work site, and contract number.
- (e) The contractor shall submit their OSHA 300 Logs (injury/illness rates) within 30 days of commencing performance at NSWCCD-SSES for review by the Safety Office (Code 022). If a contractor’s

injury/illness rates are above the Bureau of Labor Statistics industry standards, a safety assessment will be performed by Code 022 to determine if any administrative or engineering controls can be utilized to prevent further injuries/illnesses, or if any additional PPE or training will be required.

(f) The contractor shall post their OSHA 300 Logs in a conspicuous place where employee notices are customarily posted immediately upon commencing performance at NSWCCD-SSES.

(g) Applicable contractors shall submit Total Case Incident Rate (TCIR) and Days Away, Restricted and Transfer (DART) rates for the past three years within 30 days of commencing performance at NSWCCD-SSES for review by the Safety Office (Code 022). A contractor meets the definition of applicable if its employees worked 1,000 hours or more in any calendar quarter on site and were not directly supervised in day-to-day activities by the command.

(h) The contractor shall report all work-related injuries/illnesses that occurred while working at NSWCCD-SSES to the Safety Office (Code 022).

(i) The contractor shall ensure that all contractor work at NSWCCD-SSES is in accordance with the Occupational Safety and Health (OSH) Program Manual (NAVSSSINST 5100.14). The OSH Program Manual is available at: <https://crbewebappdev.dt.navy.mil/intranet/instr/s5100-14g.htm>